CLAIMS

1. An isolated polypeptide comprising an amino acid sequence chosen from the sequence SEQ ID No. 2 or SEQ ID No. 4, a sequence derived from or homologous to said sequence SEQ ID No. 2 or SEQ ID No. 4, and a biologically active fragment of said sequence SEQ ID No. 2 or SEQ ID No. 4, said isolated polypeptide being referred to as "NEP II".

2. An isolated nucleic acid comprising a nucleotide sequence chosen from the sequence SEQ ID No. 1 or SEQ ID No. 3, a sequence derived from or homologous to said sequence SEQ ID No. 1 or SEQ ID No. 3, and the complementary sequences thereof.

3. An oligonucleotide probe which hybridizes specifically with a nucleotide sequence as claimed in claim 2, said probe having a nucleotide sequence chosen from the sequences SEQ ID No. 5 to SEQ ID No. 27.

4. A cloning and/or expression vector containing a nucleotide sequence as claimed in claim 2.

5. A host cell transfected with a vector as claimed in claim 4.

6. Mono- or polyclonal antibodies or their fragments, chimeric antibodies or immunoconjugates, characterized in that they are obtained using a polypeptide as claimed in claim 1 administered to an animal, and are capable of recognizing specifically a polypeptide as claimed in claim 1.

7. A method for immunologically detecting NEP II in a cell or tissue sample or in cells or a tissue, comprising the steps consisting in:

- bringing said cell or tissue sample, said cells or said tissue into contact with a detectable antibody as claimed in claim 6;
- detecting the presence of said antibody, which is an indication of the presence of the NEP II polypeptide.

8. A method for detecting the expression of the NEP II polypeptide in a cell or tissue sample or in cells or a tissue, by *in situ* hybridization, comprising the steps consisting in:

- preparing the RNA of said sample or of said cells or of said tissue;

- bringing said RNA obtained into contact with at least one probe having a nucleotide sequence which is capable of hybridizing specifically with a nucleotide sequence as claimed in claim 2, said probe possibly being in particular an oligonucleotide probe as claimed in claim 3;

- detecting the presence of mRNA hybridizing with said probe, which indicates the expression of the NEP II polypeptide.

9. A method for identifying compounds which are substrates for the NEP II polypeptide as claimed in claim 1, in which said compounds, optionally labeled, are brought into contact with the NEP II polypeptide, and the cleavage of said compounds by NEP II, which is an indication of the metalloprotease activity of NEP II toward said substrate compounds, is evaluated.

10. A method for detecting the metalloprotease activity of NEP II in a cell or tissue sample or in cells or a tissue, comprising the steps consisting in:

- bringing said cell or tissue sample, said cells or said tissue into contact with a compound which is a substrate for the NEP II polypeptide, obtained according to the method of claim 9, said substrate compound being optionally labeled;

- evaluating the cleavage of said substrate compound, which is an indication of the metalloprotease activity of NEP II.

11. A method for screening compounds which are capable of inhibiting the metalloprotease activity of the NEP II polypeptide as claimed in claim 1, in which said compounds are brought into contact with said NEP II polypeptide and the degree of inhibition of the metalloprotease activity of NEP II is evaluated.

12. A method for detecting NEP II in a cell or tissue sample or in cells or a tissue, comprising the steps consisting in:

- bringing said cell or tissue sample, said cells or said tissue into contact with a compound which is a substrate for the NEP II polypeptide, obtained according to the method of claim 9, or with a compound which is an inhibitor of the metalloprotease activity of NEP II, obtained according to the screening method of claim 11, said substrate compound or said inhibitor compound being labeled;

- detecting the presence of said substrate compound or of said inhibitor compound, which is an indication of the presence of the NEP II polypeptide.

13. The use of the NEP II polypeptide as claimed in claim 1 for screening compounds which are inhibitors of the metalloprotease activity of NEP II, and which are useful for manufacturing a medicinal product intended for treating disorders involving the peptide transmissions in which NEP II participates.

14. The use as claimed in claim 13, in which said disorders are chosen from cardiovascular and neurodegenerative diseases, growth disorders of endocrine origin, disturbances of the hypothalamo-hypophysial axis and endocrine conditions.